

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 152-02	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE 2003/001782	International filing date (day/month/year) 18.11.2003	Priority date (day/month/year) 21.11.2002
International Patent Classification (IPC) or national classification and IPC F16D65/00, F16D55/00		
Applicant SCANIA CV AB (publ) et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:

- a. ☒ (sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

- b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

Date of submission of the demand 11.06.2004	Date of completion of this report 10.02.2005
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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2003/001782

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ the international application as originally filed/furnished

☒ the description:

pages 1 - 8 _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☒ the claims:

pages _____ as originally filed/furnished

pages* _____ as amended (together with any statement) under Article 19

pages* 9, 10 _____ received by this Authority on 06.10.2004

pages* _____ received by this Authority on _____

☒ the drawings:

pages 1 - 4 _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing (*specify*): _____
☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/figs _____
☐ the sequence listing (*specify*): _____
☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	<u>1-11</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-11</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-11</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following document:

D1: EP 1191245 A2.

D1 is regarded as being the closest prior art to the protective shield for a disc brake of claim 1-11, and discloses a protective shield for disc brake where the shield is fastened to brake supports by a fastening bracket portion provided with fastening eyes (abstract; fig 1-3).

The subject matter claimed in claim 1 differs from the protective shield for disc brake of D1 in that the protective plate (10) and the fastening bracket portion (11, 11') are separate elements which are united with each other.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed protective shield for disc brake where the protective plate and the fastening bracket portion are separate elements, united with each other. Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1-11 is novel and is considered to involve an inventive step. The invention is industrially applicable.

Claims:

1. A protective shield (9) for disc brake, which protective shield includes a brake disc (6) attached to a wheelshaft for a vehicle, and a brake yoke (5) with a pair of brake supports (8, 8'), which protective shield (9) includes means for fitting it adjacent to one side of, and in a manner partly covering laterally, the brake disc (6), and a protective plate (10) and a fastening bracket portion (11, 11') which supports and is designed to fasten the latter, the fastening bracket portion being provided with end portions for fastening cooperation with fastening eyes (13, 13') in the brake supports (8, 8'), **characterised** in that the protective plate (10) and the fastening bracket portion (11, 11') are separate elements which are united with each other.
2. A protective shield (9) according to claim 1, **characterised** in that the fastening bracket portion (11, 11') is made of pressed sheetmetal and is substantially U-shaped in cross-section.
3. A protective shield (9) according to any one of the foregoing claims, **characterised** in that the fastening bracket portion is divided into two separate fastening brackets (11, 11').
4. A protective shield (9) according to any one of the foregoing claims, **characterised** in that the protective plate (10) is a pressed sheetmetal part.
5. A protective shield (9) according to any one of the foregoing claims, **characterised** in that the protective plate (10) has reinforcing ribs (31) pressed into it.
6. A protective shield (9) according to any one of the foregoing claims, **characterised** in that the protective plate (10) exhibits peripherally distributed fastening regions (23) for fastening cooperation with a protective housing (22) which is designed to be close to the other side of the brake disc and radially outside the brake disc.

7. A protective shield (9) according to claim 6, **characterised** in that the protective housing (22) is a pressed sheetmetal part.

5 8. A protective shield (9) according to claim 6 or 7, **characterised** in that between the protective plate (10) and the protective housing (22) there are apertures (28) for letting air out during vehicle operation.

10 9. A protective shield (9) according to any one of the foregoing claims, **characterised** in that the protective plate (10) and the bracket portion (11, 11') are united by upset rivets.

10. A disc brake unit (1) with a brake yoke (5) with a pair of brake supports (8) and a protective shield (9) according to any one of the foregoing claims, whereby the brake supports are provided with fastening eyes (13, 13') for the protective shield (9).

15 11. A disc brake unit (1) according to claim 11 and including a main cover (17) which is fastened to a lining holding (18) in the brake yoke (5).